## Telecommunications Services

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By 2003, the size of the Hungarian telecommunications market will double to HUF 1,200 billion (USD 4.4 billion). Currently 15-20 major telecommunications service providers dominate the market, and even with new companies entering the market in 2002 after the liberalization of the market, only three major groups of companies are expected to be present in the market in four to five years. Currently fixed line communications represents 57 % of the market, mobile communications 36 %, data transmission 6 %, and internet services has a 1% market share. According to forecasts, the Internet segment of the market will reach ten percent by 2003.

Overall, the continued liberalization of the telecommunication market in Hungary offers significant opportunities for both service providers and telecommunication equipment suppliers. There is also opportunity for companies who can supply technical and management expertise to assist established telecommunication providers to expand and service their customer bases.

*Fixed line telephony*

MATAV, the Hungarian Telecommunications Company, operated 2.9 million lines at the end of 1999 including 114,000 ISDN channels. MATAV invested $3.2 billion between 1994-1999 on network development and plans to invest a further USD 259 million from 1999 through 2001. MATAV services cover 80 percent of Hungary and the phone penetration in MATAV's primary service areas reaches 38.6 percent (compared to 8.1 percent in 1988). Density on main lines is likely to reach 40 percent in the company's service areas by the end of 2000. The digitalization rate of the network is 88 percent.

MATAV has a monopoly on long distance and international public switched services until the end of 2001. The company is also the major, but not exclusive, provider of local telecommunications services, directly serving customers in 36 regions and also providing service in joint venture with Aphrodite B.V. in three others. The remaining local telephone operators (LTOs) operated 819,123 lines (end of 1999) in 18 primary areas covering twelve percent of the population. Local telephone companies are as follows: Emitel (with 3 primary areas), Deltav (2), Hungarotel (2), Digitel 2002 (2), Monor TT (1), Jasz-Tel (1), Kelet-Nograd Com (1), Papatel (1), Raba-Com (1), Dunatel (1), Egomcom (1), Kisdunacom (1) and Bakonytel (1). The total number of telephone lines in Hungary, including the lines of the local telephone operators, amounted to about 3.7 million at the end of 1999. All telephone concession-holders (MATAV and the LTOs) are required to achieve greater than 15.5% annual growth rates. Furthermore, after January 1997, 90% of customer demands for phone service must be fulfilled within six months.

*Mobile telephony*

Mobile telephony has proved to be a fast-growing telecommunications sub-sector in Hungary. Mobile service providers experienced a much higher growth rate than anticipated: the number of subscribers reached 2 million in May 2000 and is expected to amount to 2.5 million by the end of 2000. There are three mobile service providers in Hungary. Westel Radiotelephone Co. Ltd. was established in 1990 for a 450 MHZ mobile cellular communications system. In 1993, two concessions were issued for 900 MHZ digital (GSM) cellular systems to Westel 900 and Pannon GSM, both of which started operations in 1994. In May 2000, Westel 900 reached 1 million subscribers, Pannon GSM had 800,000 and Westel Radiotelephone had 100,000. In October 1999, a concession contract was signed with a consortium of Vodafone/Airtouch, RWE Telliance, Antenna Hungaria (20%) and the Hungarian Post (10%) to provide mobile phone services on 1800 MHz. The company started services under the name of Vodafone on November 30, 1999 and had 70,000 subscribers (3.11 % of the Hungarian market) in May 2000. The current two GSM 900 MHz mobile phone service providers have also won concessions to provide services on 1800 MHz but only 12 months after Vodafone had started services. At the end of April 2000, 18.6% of the Hungarian population owned mobile phones.

*Alternative telecommunications service providers*

Public switched data transmission services are not regulated by concessions. One of the signs that the Hungarian telecommunications market is being liberalized was the entry of PanTel in April 1998 to provide leased line and data services. PanTel invested USD 300 million in 1999 and has about 300 business clients. Its Network Management Center was opened in February 2000, managing a 500 km SDH-based fiber-optic network and also functions as the company's Budapest transmission center, ATM, Frame Relay and IP switching center.

Novacom was established in November 1997. The new company plans to be a competitor to MATAV after the liberalization of the Hungarian telecom market. In February 1999 Novacom completed the construction of a fiber optic network in Budapest and started to provide data and voice transmission services in April 1999 to two electricity distribution companies (ELMU and EMASZ) using the 1,000 km fiber optic network of the two distribution companies.

On July 28, 1999 the modification of the Telecommunications Law was enacted allowing the use the Internet for telephony. Currently MATAV, Pantel, Novacom and two GSM service providers offer Voice over IP service.

Antenna Hungaria, the state-owned Hungarian Broadcasting Co., also engages in telecommunication activities (VSAT, paging, nationwide microwave network etc.) and is positioning itself to expand its telecom business when MATAV loses its long-distance

and international monopoly rights in 2002. In April 1998 Antenna Hungaria, Motorola and British Telecom signed a letter of intent with Motorola and British Telecom to establish a consortium for installing and operating a TETRA communications system for the Government and public safety without any funding from the state budget. Decision on a tender for the TETRA system can be expected in 2000.

GTS Hungary was established in 1993 as the Hungarian subsidiary of the US based Global TeleSystems Group, Inc. servicing the government and business sectors with Vsat technology, Frame Relay communications, closed user group voice communications over data networks and internet services. GTS connected Budapest on a 2.5 Gb/s line to its pan-European optical fiber network backbone (Ebone) and signed a contract with UPC the leading cable operator in Hungary for high capacity IP transit services between Budapest and other European cities. UPC has cable connections to 530,000 households and plans to start its Internet services (Chello) in August 2000. UPC also plans to be a player in the telecommunications market after the liberalization.

*Satellite communications*

According to the telecommunications law, satellite services fall into the category of free competition areas. However, Hungarian licensing procedures require that all companies that provide satellite telecom services must obtain a license. There are four VSAT providers. MATAV Sat-Net (established in 1991) serves about 500 terminals through its NEC hub located in Budapest. Hungaro DigiTel (HDT), which is owned by Antenna Hungaria, was established in 1990 and operates about 950 VSAT terminals. BankNet (established in 1991) operates 50 networks with 780 terminals. GTS Hungary operates more than 1,000 VSAT terminals in Hungary and neighboring countries.

*Paging*

The telecommunications law passed in November 1992 determined that national paging systems would fall in the category of limited competition areas. Since the tender process in May 1994, the three companies granted licenses for a pan-European paging system (ERMES) have consolidated into just one provider, Eurohivo. Due to the widespread GSM systems there is limited market share available to companies providing paging services (20,000 subscribers is considered to be the maximum).

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